

INVENTOR: INCH et al.
TITLE: IMPROVED POT AND PAN WASHING MACHINE

CLAIMS

Having thus described the invention what is claimed as new and desired to be secured by Letters Patent is as follows:

1. A pot and pan washing machine comprising:
 - a wash tank including bottom wall, a rear wall, a front wall and two side walls extending upwardly from said bottom wall;
 - an intake port in one of said side walls, said intake port being located adjacent to said bottom and rear walls;
 - an outlet manifold on said rear wall;
 - a parallel flow pump including:
 - a pump inlet associated with said intake port, said pump inlet having an intake path in a first direction, and
 - a pump outlet associated with said outlet manifold, said pump outlet having an outlet path in a second direction, said second direction being generally parallel to said first direction;
 - a perforated intake manifold positioned to cover said intake port; and
 - at least one jet nozzle in association with said outlet manifold to expel at a predetermined angle a jet stream of fluid from said outlet manifold.

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1 2. The pot and pan washing machine as claimed in Claim 1 wherein said parallel flow
2 pump is self-draining.

1 3. The pot and pan washing machine as claimed in Claim 1 wherein said intake manifold
2 is located adjacent said rear wall.

1 4. The pot and pan washing machine as claimed in Claim 1 wherein said intake manifold
2 comprises:

3 an upper portion extending away from said rear wall towards said front wall at a
4 predetermined downward angle towards said bottom wall, said upper portion is
5 positioned within a portion of the jet stream of said jet nozzle and said
6 predetermined downward angle of said upper portion of said intake manifold
7 corresponds to the predetermined angle of the jet stream of said nozzle.

1 5. The pot and pan washing machine as claimed in Claim 4 wherein said jet nozzle
2 comprises:

3 a directing tube flush connected to said rear wall and extending into said outlet
4 manifold.

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1 6. The pot and pan washing machine as claimed in Claim 5 wherein said directing tube is
2 connected to said rear wall via an outer ring that is flush mounted to an inner side of said rear
3 wall.

1 7. The pot and pan washing machine as claimed in Claim 1 wherein said jet nozzle
2 comprises:

3 a directing tube flush connected to said rear wall and extending into said outlet
4 manifold.

1 8. The pot and pan washing machine as claimed in Claim 7 wherein said directing tube is
2 connected to said rear wall via an outer ring that is flush mounted to an inner side of said rear
3 wall.

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1 9. A self-draining pump for use in a pot and pan washing machine, said pump

2 comprising:

3 a housing, said housing including:

4 an intake chamber and a volute,

5 an intake port located in said chamber, a portion of said intake port comprising

6 a lower most position of said housing,

7 a drainage passage extending from a lower most position of said volute to said

8 chamber, and

9 an outlet port located in said volute;

10 a motor; and

11 an impeller within said housing and connected to said motor for passing a fluid between

12 said chamber and said volute.

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10. A self-draining pump for use in a pot and pan washing machine, said pump

comprising:

a housing, said housing including:

an intake chamber and a volute,

an intake port located in one of said chamber and said volute, a portion of said

intake port comprising a lower most position of said housing,

a drainage passage extending from a lower most position of said one of said

chamber and said volute to said an other of said chamber and said

volute, and

an outlet port located in said other of said chamber and said volute;

a motor; and

an impeller within said housing and connected to said motor for passing a fluid between

said chamber and said volute.

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1 11. A parallel flow pump for use in a pot and pan washing machine, said pump
2 comprising:

3 a housing, said housing including:

4 a chamber and a volute,

5 an intake port located in one of said volute and chamber,

6 an outlet port located in an other of said volute and chamber, said outlet port

7 having a direction parallel to an inlet direction of said intake port, and

8 a cylindrical passage connecting said chamber to said volute;

9 an impeller located within said cylindrical passage; and

10 a motor including a shaft engaging said impeller for rotation thereof.

1 12. The parallel flow pump as claimed in Claim 11 further comprising a generally annular
2 seal plate positioned between said motor and said housing.

1 13. The parallel flow pump as claimed in Claim 12 wherein said seal plate further
2 comprises an anti-rotation member extending perpendicularly from said seal plate and into said
3 housing.

1 14. The parallel flow pump as claimed in Claim 11 further comprising an annular shaft seal
2 positioned along said shaft between said motor and said impeller.

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1 15. The parallel flow pump as claimed in Claim 11 wherein said impeller is positioned
2 within said volute.

1 16. The parallel flow pump as claimed in Claim 15 wherein said chamber includes said
2 intake port, said volute includes said outlet port, and said impeller comprises a shaft-side
3 suction impeller.

1 17. The parallel flow pump as claimed in Claim 11 further comprising:
2 a generally annular seal plate positioned between said motor and said housing for
3 connecting said motor to said housing; and
4 an annular shaft seal positioned along said shaft between said impeller and said seal
5 plate;
6 wherein said impeller is connected to said shaft, such that said motor, said seal plate,
7 said shaft seal and said impeller are capable of removal from said housing as a
8 single unit.

1 18. The parallel flow pump as claimed in Claim 11 further comprising a drainage passage
2 extending between said chamber and said volute.

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19. A pot and pan washing machine comprising:

a wash tank including a bottom wall, a rear wall, a front wall and two side walls

extending upwardly from said bottom wall;

an intake port in one of said side walls, said intake port being located adjacent to said

bottom and rear walls;

an outlet manifold on said rear wall;

a pump including:

a pump inlet associated with said intake port, and

a pump outlet associated with said outlet manifold;

at least one jet nozzle in association with said outlet manifold to expel at a

predetermined angle a jet stream of fluid from said outlet manifold; and

a perforated intake manifold within said wash tank positioned within a portion of the jet

stream of said jet nozzle and positioned to cover said intake port, said intake

manifold including an upper portion extending in a direction generally

originating from said rear wall towards said front wall at a predetermined

downward angle towards said bottom wall, and said predetermined downward

angle of said upper portion of said intake manifold corresponds to the

predetermined angle of the jet stream of said nozzle.

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1 20. The pot and pan washing machine as claimed in Claim 19 wherein said upper portion
2 of said intake manifold includes perforations.

1 21. The pot and pan washing machine as claimed in Claim 19 wherein said jet nozzle
2 comprises:

3 a directing tube flush connected to said rear wall and extending into said outlet
4 manifold.

1 22. The pot and pan washing machine as claimed in Claim 21 wherein said directing tube is
2 connected to said rear wall via an outer ring that is flush mounted to an inner side of said rear
3 wall.

1 23. The pot and pan washing machine as claimed in Claim 19 wherein said upper portion
2 of said intake manifold abuts said rear wall.

1 24. The pot and pan washing machine as claimed in Claim 19 wherein said intake manifold
2 further comprises a lower portion, said lower portion extending perpendicularly from said
3 upper portion, said lower portion abutting said bottom wall.

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- 1 25. The pot and pan washing machine as claimed in Claim 24 wherein said lower portion
- 2 of said intake manifold is perforated.

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1 26. A pot and pan washing machine comprising:
2 a wash tank including a bottom wall, a rear wall, a front wall and two side walls
3 extending upwardly from said bottom wall;
4 an intake port in one of said side walls, said intake port being located adjacent to said
5 bottom and rear walls;
6 an outlet manifold on said rear wall;
7 a pump including:
8 a pump inlet associated with said intake port, and
9 a pump outlet associated with said outlet manifold;
10 at least one jet nozzle in association with said outlet manifold to expel at a
11 predetermined angle a jet stream of fluid from said outlet manifold, said jet
12 nozzle including:
13 a directing tube flush connected to said rear wall and extending into said
14 outlet manifold; and
15 a perforated intake manifold within said wash tank positioned to cover said intake port.

1 27. The pot and pan washing machine as claimed in Claim 26 wherein said directing tube is
2 connected to said rear wall via an outer ring that is flush mounted to an inner side of said rear
3 wall.

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1 28. The pot and pan washing machine as claimed in Claim 26 wherein said jet nozzle
2 further comprises a semi-circular splash guard protruding from said outer ring in a generally
3 orthogonal direction.

1 29. A non-welded field joint for connection of a first sink portion to a second sink portion
2 to form a single unit, the first sink portion having a generally flat side abutted flush against a
3 generally flat side of the second sink portion, said field joint comprising:
4 a hemmed edge located along an edge of the generally flat side of the first sink portion;
5 a lip located along an edge of the generally flat side of the second sink portion, said lip
6 extending in an outward direction from said edge of the second sink portion,
7 said lip capable of surrounding said hemmed edge of the first sink portion; and
8 an inwardly extending jog located generally near said edge of the generally flat side of
9 one of the first or second sink portions.

1 30. The non-welded field joint as claimed in Claim 29 wherein said jog is located on the
2 generally flat side of the first sink portion and said jog positions said hemmed edge generally
3 inward of the generally flat side of the first sink portion.

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1 31. The non-welded field joint as claimed in Claim 29 wherein said jog is located on the
2 generally flat side of the second sink portion and said jog positions said lipped edge generally
3 inward of the generally flat side of the second sink portion.

1 32. A method of connecting a first sink portion to a second sink portion to form a single
2 unit, the first sink portion having a generally flat side abutted flush against a generally flat side
3 of the second sink portion, said method comprising the steps of:

4 hemming an edge of the generally flat side of the first sink portion;

5 forming a lip in an edge of the generally flat side of the second sink portion;

6 forming an inwardly extending jog in the generally flat side of one of the first or
7 second sink portion; and

8 positioning said hemmed edge of the first sink portion within said lip of the second sink
9 portion such that the generally flat side of the first sink portion is held in tight
10 engagement with the generally flat side of the second sink portion.

1 33. The method as claimed in Claim 32 further comprising the step of filling said lip with a
2 sealant to eliminate any gap between the generally flat side of the first sink portion and the
3 generally flat side of the second sink portion created by said inwardly extending jog.

1 34. The method as claimed in Claim 33 wherein said sealant comprises silicon.

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2 35. The method as claimed in Claim 32 further comprising the step of placing a decorative
3 trim piece between the first sink portion and the second sink portion.

1 36. The method as claimed in Claim 35 further comprising the step of securing said
2 decorative trim piece to at least one of said first or second sink portions with tape.

1 37. The method as claimed in Claim 35 further comprising the step of filling any gaps
2 between said decorative trim piece and said first and second sink portions with a sealant.

1 38. The method as claimed in Claim 37 wherein said sealant comprises silicon.

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1 39. A method of automatically cleaning an intake manifold in a pot and pan washing

2 machine, said method comprising the steps of:

3 positioning a perforated portion of an intake manifold within at least a portion of a jet

4 stream produced by a jet nozzle within the washing machine; and

5 allowing said jet stream to blow a debris away from said perforated portion.

1 40. The method as claimed in Claim 39 further comprising the step of setting an angle of

2 said perforated portion to correspond to an angle of said jet stream emanating from said

3 nozzle.